

## Department of Energy

ROCKY FLATS FIELD OFFICE  
P.O. BOX 928  
GOLDEN, COLORADO 80402 0928

JAN 25 2 14 PM '95

00215 RF 95

DUE  
DATE

ACTION

DIST	LTR	ENC
BURLINGAME, A.H.		
BUSBY, W.S.		
CARNIVAL, G.J.		
CORDOVA, R.C.		
DAVIS, J.G.		
FENN, T.M.		
FERRERA, D.W.		
FRAY, R.E.		
FULTON, D.L.		
GEIS, J.A.		
GLOVER, W.S.		
GOLAN, P.M.		
HANNI, B.J.		
HEALY, T.J.		
HEDAH, T.G.		
HILBIG, J.G.		
HOLLOWELL, L.J.	X	
HUTCHINS, N.M.		
JACKSON, D.T.		
KELL, R.E.		
KUESTER, A.W.		
MARX, G.E.		
MCCART, D.		
MCDONALD, M.M.		
MCGOVERN, L.J.		
McKENNA, F.G.		
PAUKERT, J.G.		
PIZZUTO, V.M.		
POTTER, G.L.		
SATTERWHITE, D.G.		
SCHRAEDER, D.C.		
SCHUBERT, A.L.		
SCHWARTZ, J.K.		
SETLOCK, G.H.		
STIGER, S.G.		
VOORHEIS, G.M.		
Bicher, C	X	

EG&G  
ROCKY FLATS PLANT  
CORRESPONDENCE CONTROL

JAN 24 1995

95-DOE-08057

Mr Martin Hestmark  
U S Environmental Protection Agency, Region VIII  
ATTN Rocky Flats Project Manager, 8HWM-RI  
999 18th Street, Suite 500 8WM-C  
Denver, Colorado 80202-2405

Mr Joe Schieffelin, Unit Leader  
Hazardous Waste Facilities  
Colorado Department of Public Health and the Environment  
4300 Cherry Creek Drive South  
Denver, Colorado 80222-1530

Gentlemen

Enclosed are meeting minutes from the Groundwater Modeling Meeting for the OU 5

Human Health Risk Assessment held on December 14, 1994

If you have any questions or comments, please call Kurt Muenchow at 966-2184

Sincerely,

*Steven W. Slaten*  
Steven W Slaten  
IAG Project Coordinator  
Environmental Restoration

Enclosure

CORRES CONTROL X X  
INFORMATION/080 946  
PATS/T130GReviewed for Addressee  
Corres Control RFP1-25-95 JMB  
DATE BY

Ref Ltr #

DOE ORDER # 47001

cc w/ Enclosure  
C Gesalman, EM-453, HQ  
C Spreng, CDPHE  
E Pottorf CDPHE  
B Lavelle, EPA  
K Klein, OOM RFFO  
K Muenchow, ER RFFO  
E Zika, PME, RFFO  
C Bicher, EG&G

An OU5 groundwater modeling meeting was held December 14, 1994, at the request of the Colorado Department of Health (CDH) and the Environmental Protection Agency (EPA). Those in attendance were as follows:

Elizabeth Pottorf, Colorado Department of Health  
Jim Wolf, Consultant to EPA  
Elizabeth Zika, Department of Energy  
Carol Bicher, EG&G OU5 Project Manager  
Wayne Belcher, EG&G OU% Groundwater Modeling  
Barry Roberts, EG&G Sitewide Groundwater Modeling  
Andus Berzins, EG&G OU% Surface-Water Modeling  
Doug Dennison, ASI OU5 Project Manager  
Darrel Dunn, ASI Task Manager Groundwater Modeling  
Rose M. Zeiler, ASI Groundwater Modeling

The purpose of the meeting was to review the status of the modeling effort and to present to the regulators for comment and discussion the groundwater flow modeling process and results, thereby facilitating a smoother, timely review of the RFI/RI Report by the agencies.

Flow modeling and particle tracking have been completed. Presently some difficulties with utilities are being experienced. D. Dunn presented the model and results and fielded questions. Highlights of the meeting are as follows:

- E. Pottorf questioned sensitivity of model to hydraulic conductivity. D. Dunn responded that this was noted during calibration and that a sensitivity/uncertainty analysis will be performed at the end of transport modeling per the procedure outlined in Tech Memo 13.
- J. Wolf and E. Pottorf asked about the relationship of recharge and hydraulic conductivity in the model. D. Dunn discussed his observations of the relative insensitivity of the model to recharge and that his primary calibration tool was hydraulic conductivity with the expectation of using recharge as a secondary calibration tool only when hydraulic conductivity would not yield the desired results. All calibration was conducted using hydraulic conductivity and recharge remained unchanged throughout the process.
- J. Wolf asked whether extra recharge was used to simulate the presence of pond water in the Surface Interceptor Ditch (SID). D. Dunn responded that a negative recharge was used where water-loving plants inhabited the SID. This seemed to work well and an adjustment of recharge was not required.

- B Roberts questioned the high values of hydraulic conductivity east of the C2 Pond D Dunn responded that this was necessary to dry up cells containing two dry target wells east of the C2 Pond R Zeiler pointed out that the Doty & Associates analysis of a pumping test conducted near this area by Ebasco during OU1 R1 activities resulted in hydraulic conductivities in the range of this same order of magnitude
- B Roberts questioned the high end of effective porosities used for particle tracking (19%) D Dunn explained the method used for deriving effective porosities for each of the calibrated zones of hydraulic conductivity OU2 pumping and tracer test values of hydraulic conductivity and effective porosity fit very well with a Bureau of Reclamation graph depicting the relationship between hydraulic conductivity and effective porosity Consequently, the same graph was used to find effective porosities for all of the zones of hydraulic conductivity in the calibrated model
- E Pottorf suggested that we might lower hydraulic conductivities if we lowered our constant heads D Dunn responded that the effect of changing constant heads is limited because they must be greater than the bedrock elevation and less than the land surface elevation
- J Wolf asked about the tie-in of surface-water and groundwater modeling D Dunn responded that groundwater modeling will yield a concentration at Woman Creek Surface-water can use this information for gaining periods A Berzins confirmed this approach
- J Wolf asked why we did particle tracking D Dunn explained that particle tracking gives a "feel" for the flow model, that it facilitates selecting source areas, and that it expedites solute transport modeling by providing paths for contaminants (enabling easier calibration of Kds)

#### Issues of Concern

- B Roberts asked whether the model incorporated the effects of a cut-off wall at the West end of the C2 Pond
- B Roberts pointed out the presence of dry cells which may dam flow
- D Dunn acknowledged a problem with particle tracking, where the particles do not follow the track This will be investigated
- E Pottorf requested a copy of the map of the surface-water gain/loss study

OUS RFI/RI GROUNDWATER MODELING MEETING  
DECEMBER 14, 1994

<u>NAME</u>	<u>AFFILIATION</u>	<u>PHONE/FAX</u>
Doug Dennison	ASI	980-0036/980-1206
Wayne R Belcher	EGEG	966-6931/966-8663
Elizabeth M Zka	DE	966-7164/966-2848
Darrel Dunn	ASI	980-0036/980-1206
JIM WULFF	PRC	295-1101/295-2616
Elizabeth Potterff	COPHE	692-3586/752-0390
Barry L Roberts	EGEG	966-8623
Curci Bicher	EGEG	966-9100/966-8663
Andy Berzin	EGEG	966- /966-8663